

REMARKS/ARGUMENTS

Claims 102-142 are pending in the application. Claims 1-101 have been cancelled.

These new claims have been amended where appropriate to provide antecedent basis in any claims that recite more than one light emitting panel member or that recite different end edges or side edges as kindly pointed out by the Examiner. Accordingly, withdrawal of this objection is respectfully requested.

In the prior Office Action, the Examiner rejected all of the pending claims as being unpatentable over Hegarty (U.S. Patent 5,276,591) taken alone or in combination with Lan (U.S. Patent 5,075,826), Pristash et al (U.S. Patent 5,005,108) and/or Schöniger et al (U.S. Patent 5,027,258). However, it is respectfully submitted that all of the new claims 102-142 clearly patentably distinguish over these references as well as the other cited references for at least the following reasons.

Claim 102 is directed to an optical assembly including, *inter alia*, at least one light emitting panel member having opposite sides and at least one input edge for receiving light from at least one light source. At least one pattern of individual optical deformities is on or in at least one side of the panel member for producing at least one light output distribution from the panel member having a form or shape of at least one of text, graphics, logo or image. As claimed, each element of the text, graphics, logo or image is produced by a plurality of the optical deformities which have at least one well defined sloping surface and a length and width that are quite small in relation to the length and width of each element of the text, graphics, logo or image formed thereby and are oriented for causing the one light output distribution to generally be emitted in a

particular direction. Also additional optical deformities are on or in the panel member for generally emitting light in a different direction, such that different light output distributions are seen when the panel member is viewed from different angles through a side.

This differs from Hegarty in that each of the etched grooves which forms each element of the graphics on both sides of the panel member as shown in Fig. 3 of Hegarty extends virtually the entire length or width of each element of the graphics. Thus each element of the graphics of Hegarty is not formed by a plurality of optical deformities having at least one well defined sloping surface and a length and width that are quite small in relation to the length and width of each element of the graphics as claimed. Moreover, the orientation and shape of the individual grooves of Hegarty are dictated by the orientation and shape of each element of the graphics formed thereby, and cannot be oriented independently of the orientation of each element of the graphics formed thereby for causing the light output distribution to generally be emitted in a particular direction as claimed. Further, if the light output distributions emitted by the etched grooves on both sides of the panel member of Hegarty were visible from a side of the panel member, the same light output distributions would be seen regardless of the angle that the panel member is viewed through the side. In contrast, different light output distributions are seen when the claimed panel member is viewed from different angles through the side. Accordingly, claim 102 is submitted as clearly allowable.

Claims 103-117 depend from claim 102 and are submitted as allowable for substantially the same reasons. Moreover, claims 103 and 104 further patentably distinguish over Hegarty by reciting that the optical deformities of the one pattern are

varied to obtain a substantially uniform intensity of the one light output distribution or a multi-intensity light output distribution. In contrast, Hegarty uses a line of discrete LED light sources to provide even illumination of the graphics (column 2, lines 42-45). Also Hegarty discloses in column 3, lines 25-29 that different illumination effects can be obtained by varying the shape and depth of the grooves, not by varying the pattern of optical deformities as claimed.

Claims 106-113 also further patentably distinguish over Hegarty by reciting at least one other light emitting panel member having a different light output distribution than the one panel member, and that the panel members are in overlying relation to one another for producing at least one composite light output distribution when viewed through the panel members from one side. Also claim 108 recites that each of the panel members receives light from at least one different colored light source to produce at least one multi-colored composite light output distribution when viewed through the panel members from the one side; claim 109 recites that the light output distribution of each of the panel members produces one or more parts of a more complex light output distribution that is visible through the panel members from the one side; and claim 110 recites that the intensity of the light output distribution from each of the panel members is different and creates at least one multi-intensity composite light output distribution that is visible through the panel members from the one side. In Hegarty the two graphic panels 10, 20 shown in Fig. 1 have the same etched groove pattern 50, 60 on their respective rear surfaces 160, 150 which are coated with a high reflectivity paint that allows for highly uniform illumination of graphics on the front 170, 180 of the graphic panels (column 5, lines 20-23).

Claims 111 and 112 still further patentably distinguish over Hegarty by reciting that the light output distributions of the overlying panel members are visible through a display such as a liquid crystal display overlying the one side of the overlying panel members. The members 520 and 530 of Hegarty (Fig. 8) are spacers that provide support and rigidity to the structure (column 7, lines 53-59); not displays overlying one side of two overlying panel members having light output distributions that are visible through the display as claimed. Moreover, using the panel members of Hegarty to backlight liquid crystal displays or transparencies or the like as taught by Pristash would not meet the limitations of these claims. Nor would the placing of a second prismatic film in closely spaced relation to the panel surface of Hegarty as taught by Pristash meet the limitations of claim 113 of providing at least one light redirecting film between the display and at least one of the panel members.

Claim 114 further patentably distinguishes over the cited references by reciting in the claimed combination that the different light output distributions of the panel member are visible through a display overlying the panel member when viewed from different angles through the display. Also claim 115 recites that the additional optical deformities that generally emit light in a different direction are prismatic or lenticular optical deformities.

Claims 116 and 117 further patentably distinguish over the cited references by reciting in the claimed combination that the panel member has at least two input edges at different end edges or side edges for receiving light from at least two different light sources. Also claim 117 additionally recites that the input edges receive light from different colored light sources, and that at least some of the optical deformities in the

one pattern are shaped or oriented preferentially to cause the different colored light received by the different input edges to create at least one multi-colored output distribution. Hegarty discloses that a few colored light selections are available (column 1, lines 32-34); not that different input edges receive light from different colored light sources as claimed. Also the statement in column 5, lines 32-34 of Hegarty that different illumination effects can be obtained by varying the shape and depth of the grooves has nothing to do with a preferential shaping or orienting of the optical deformities to cause the different colored light received by the different input edges to create at least one multi-colored light output distribution as claimed. As previously indicated, the orientation and shape of the grooves of Hegarty are dictated by the shape of the graphics.

Claim 118 includes the same novel features of claim 102 in addition to reciting that the additional optical deformities are on or in the opposite side of the panel member for generally emitting light in a different direction than the light output distribution emitted by the one pattern of individual optical deformities such that different light output distributions are seen when the panel member is viewed from different angles through a side, and is submitted as allowable for substantially the same reasons.

Claims 119 and 137 also recite a pattern of individual optical deformities on or in at least one side of a light emitting panel member for producing a light output distribution from the panel member having a form or shape of at least one of text, graphics, logo or image, and that each element of the text, graphics, logo or image is produced by a plurality of the optical deformities which have at least one well defined sloping surface and a length and width that are quite small in relation to the length and

width of each element of the text, graphics, logo or image formed thereby, which is clearly nowhere disclosed in Hegarty for the reasons previously discussed. Nor does Hegarty disclose such a panel member having at least two input edges at different end edges or side edges for receiving light at the different end edges or side edges from at least two different colored light sources, and wherein at least some of the optical deformities in the one pattern are shaped, angled or oriented to cause light from the different colored light sources to be emitted preferentially from the panel member to create at least one multi-colored light output distribution as recited in claim 119 or to create at least one region in the one light output distribution where the emitted light is mixed to produce a color that is different from the color of the two different colored light sources as recited in claim 137. Accordingly, claims 119 and 137 are submitted as clearly allowable.

Claims 120-136 depend from claim 119 and are submitted as allowable for substantially the same reasons in addition to reciting other novel features in the claimed combination. Claims 120 and 121 recite that the optical deformities of the one pattern are varied to obtain a substantially uniform intensity of the one light output distribution or to obtain a multi-intensity light output distribution.

Claims 122-127 additionally recite at least one other light emitting panel member having a different light output distribution than the one panel member in overlying relation to one another for producing at least one composite light output distribution when viewed through the panel members from one side. Also claim 123 recites that the other panel member has at least one light output distribution in the form or shape of at least one of text, graphics, logo or image; claim 124 recites that each of the panel

members receives light from different colored light sources to produce at least one multi-colored composite light output distribution when viewed through the panel members from the one side; claim 125 recites that the light output distribution of each of the panel members produces one or more parts of a more complex light output distribution that is visible through the panel members from the one side; claim 126 recites that the intensity of the output distribution from each of the panel members is different and creates at least one multi-intensity composite light output distribution that is visible through the panel members from the one side; and claims 127-129 recite that the light output distributions of the overlying panel members are visible through a display overlying the one side of the overlying panel members. Also claim 128 additionally recites that the display is a liquid crystal display and claim 129 recites at least one light redirecting film between the display and at least one of the panel members.

Claims 130-132 also recite that the light output distribution of the panel member is visible through a display overlying the panel member. In addition, claim 131 recites that the display is a liquid crystal display, and claim 132 recites at least one light redirecting film between the panel member and the display that allows different light output distributions to be seen when the panel member is viewed through the display from different angles.

Claims 133 and 134 also recite at least one light redirecting film in close proximity to the panel member that allows different light output distributions to be seen when the panel member is viewed through the film from different angles. Also claim 134 recites that the film is a prismatic or lenticular brightness enhancing film or light

management film. Claim 135 recites that the different colored light sources are different colored light emitting diodes, whereas claim 136 recites that the different colored light sources are flashed to produce a desired colored light output distribution. It is generally known from Schöniger to flash different colored light sources, but not in the claimed combination.

Claims 138 and 139 are directed to an optical assembly including, *inter alia*, at least one pattern of individual optical deformities on or in at least one side of a light emitting panel member for producing a light output distribution from a light emitting surface area of the panel member, wherein the individual optical deformities are varied throughout the pattern to cause the light output distribution to be generally uniform and provide a generally uniform field of illumination for a liquid crystal display overlying the light emitting surface area except in a localized region within the uniform field of illumination where the individual optical deformities are varied to create a watermark, security marking, label or other effect within the uniform field of illumination having a form or shape of at least one of text, graphics, logo or image that is viewable through the display, and wherein each element of the text, graphics, logo or image is comprised of a plurality of the individual optical deformities which are quite small in relation to the length and width of each element of the text, graphics, logo or image formed thereby. Also claim 138 additionally recites that the deformities have at least one well defined sloping surface.

The Examiner acknowledges that Hegarty does not teach one light output distribution located in another light output distribution of a light emitting panel member to create a watermark, security marking, label or other effect in the other light output

distribution having the form or shape of text, graphics, logo or image, but contends it would have been obvious to modify the panel member of Hegarty to incorporate the one light output distribution within another light output distribution as taught by Lan, so as to accentuate the message or provide greater aesthetic appeal via placing one image within the context of another. However, the text, sun, trees or water of Lan are all formed by a plurality of parallel grooves 13 which may cover the entire area of the back side or collectively form a pattern, for example, the word "stop" or other warning word (column 2, lines 36-42). Also each of the grooves 13 of Lan consists of two side walls 14, 15. The side wall 14 is formed at a 45° angle to the back surface of the board while the side wall 15 is formed at a 90° angle to the surface of the board. When the light beams strike the 45° surface, they make a 90° turn and are emitted out perpendicular to the transparent board's front face (Fig. 4; column 2, lines 42-52). Because of this, the text, sun or trees of Lan could not be in a localized region within the water, for example, or they would all run together and not be distinguishable from each other. Nor is each element of the text, graphics, logo or image of Lan comprised of a plurality of individual optical deformities of a pattern which are quite small in relation to the length and width of each element of the text, graphics, logo or image formed thereby. Accordingly, claims 138 and 139 are also submitted as clearly allowable.

Claims 140-142 depend from claim 139 and are submitted as allowable for substantially the same reasons in addition to reciting other novel features in the claimed combination. Claim 140 recites that the light source is a colored light source, whereas claims 141 and 142 recite that the panel member has at least two input edges at different end edges or side edges of the panel member for receiving light from at least

two different light sources. Also claim 142 additionally recites that the different light sources are different colored light sources.

Where, as here, the differences in the claimed combination give advantageous results not disclosed or suggested in the cited references, more than a matter of design is involved. Accordingly, this application is now believed to be in condition for final allowance of all of the pending claims 102-142, and early action to that end is earnestly solicited. Should the Examiner disagree with applicants' attorney in any respect, it is respectfully requested that the Examiner telephone applicants' attorney in an effort to resolve such differences.

In the event that an extension of time is necessary, this should be considered a petition for such an extension. If required, fees are enclosed for the extension of time and/or for the presentation of new and/or amended claims. In the event any additional fees are due in connection with the filing of this Reply, the Commissioner is authorized to charge those fees to our Deposit Account No. 18-0988 (Attorney Docket GLOLP0108USG).

Respectfully submitted,

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